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Surging Cancer, Costly Treatment and Wrecking of Family Finances: Reflections from the Punjab's Malwa Belt

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ABSTRACT

Surging cancer cases in Punjab's Malwabel thas become one of the most serious concerns for the policy makers and stakeholders. Many studies showed that the people in productive age-group of 30-65 years were suffering from this dreaded disease. Economic and social costs of cancer to the individual/family/society are also enormous and run into crore of rupees that include direct costs (out-of-pocket expenditures while seeking treatment) and indirect costs (reduced labour supply, production and productivity). The present study is modest attempt to study incidence of cancer and patterns in Punjab's Malwa belt; how the cancer patients/families bear high treatment costs; and how the high cost of treatment wreck the family finances. The study is primarily based on the primary data. Out of 1172 cancer suffering rural households located in 21 villages of Fazilka District of Punjab, 154 cancer patients were randomly selected and surveyed in the last six months of 2021. Wheat, cotton and paddy (in order of importance) found to be main crops grown in these villages.

KEYWORDS: *Cancer, Expenditure, Treatment, Non-communicable diseases, Financial, Economic Consequences, Indoor and Outdoor*

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INTRODUCTION

In India, both the demographic and epidemiological transitions have been taken place simultaneously (GOI, 1994), more so in the Punjab. Whereas in the demographic transition, the proportion of old age people has been risen over the time (Misra, et al., 2003); and in the epidemiological transition, non-communicable diseases (NCDs) and degenerative (ageing) diseases began to dominate (Alam, 2006) compared to the infectious and communicable diseases (Singh, 2015).Further, rising urbanization, industrial pollution, environmental degradation and global health linkages have brought out many undesirable lifestyles, poverty-abundance syndrome, social stress and stains in Punjabi society, which, in turn, have caused high incidence the cancers, heart diseases, diabetes, hypertension, joint pains, mental disorders, accidents/injuries, etc (Mohan, et al., 2011). Across these diseases, cancer having high mortality is the most dreaded, painful and costly diseases. It is indeed true that a single cancer case in the family causes heavy economic loss for several coming generations in that family.

Surging cancer cases in Punjab' cotton belt (Malwa region) is one of serious concerns. Its extent has been well-documented by many research studies and highlighted by the newspaper reports (Singh, et al. 2014). In fact, this disease has acquired an epidemic proportions and emerged as one of the major public health concerns in the state. The people in the age group of 30-65 years are falling prey to this dreaded disease and is causing considerable loss in the potentially productive years oflife. Economic and social costs of cancer to the society are also enormous and run into crore of rupees that include direct costs to the families inflicted with cancer illness/disease and indirect costs to the society in the form of reduced production and productivity. The present study is modest attempt to study incidence of cancer in Punjab's Malwa belt and how the cancer patients/families finance high treatment costs of such disease. It is primarily based upon the primary data generated across 154 cancer afflicted patients/households selected from a large number of cancer patients located in 21 villages of

Fazilkadistrict of Punjab. Wheat, cotton and paddy (in order of importance) were major crops grown in these villages. The reference year for collecting the desired data was 2021.

For better understanding, this paper has been divided into seven sections. Section I examines the extent and surging cancer cases in Punjab. The demographic and socio-economic characteristics of cancer patients are portrayed in Section II. Section III examines major types and pattern of cancer diseases across these sampled cancer patients. It also discusses which body part/s of patients was/were affected by the cancer. Section IV examines utilization pattern and preferences of the cancer patients. Section V discusses financial costs borne by the cancer patients and financing pattern for managing or getting treatment of cancer illness. The main conclusions and public policy issues have been set forth in the Section VI.

I. Surging Cancer Cases in Punjab

No doubt, Punjab still ranked high amongst the most progressive and dynamic states of India. Its spectacular success till early 1990s was largely due to intensive agriculture sector and small-sized industry. International evidence indicates that this agriculture revolution in Punjab has generated much needed food security to the nation, and at the same time, it has raised alarming negative signs for the ecology of the state. The indiscriminate use of agro-chemicals (fertilizers, insecticides/pesticides, etc.) in Punjab's agriculture has created undesirable and serious health and environmental problems in the state. From the ecological perspective, heavy and indiscriminate use of agro-chemicals has contaminated the surface and ground water, damaged its environment, destroyed freshwater eco-systems, and entered our food chain in a subtle way that the very existence of mankind is facing an extreme danger. Punjab is now become a leading state in terms of consumption of chemical fertilizers and insecticides/pesticides per hectare (Singh, et al., 2014).

Academia, health professionals and policy makers generally attributed the high occurrence of cancers to rising use of agro-chemicals, poor quality of drinking water, polluted environment and\ unhygienic living conditions. Further, people living in the rural areas do not have easy access to the education and health care services needed to combat this disease (Gupta, et al. 2009). Most villagers for cancer treatment go to the far away located tertiary hospitals like the PGI, Chandigarh; Government Medical College and Hospital, Patiala; Christian Medical College and Hospital, Ludhiana; DMC, Ludhiana and other private hospitals, more so when the cancers have progressed to the advanced stages (Thakur, et al., 2008). At the advanced stages, cancer becomes more complicated, cost of treatment cost increased drastically and probability of cancer patients' survival dimmed.

During the last two decades, the media, both print and electronic, have created an impression that Punjab's Malwaregion (cotton belt) comprising of Bathinda, Mansa, Faridkot, Muktsar, and Ferozepur districtsof the state has become a cancer bowl (GOP, 2012). Some reports in the vernacular press with names of cancer patients and cancer deaths in the form of village-wise data especially from Bathinda district have given a credence to the belief of the common man that Punjab state has become really a dreaded state as far as the number of cancer cases are concerned (GOP, 2013). The research studies done recently stated that the most plausible causative factors behind high incidence of cancer are primarily attributed to the urbanization, industrialization, life style changes, increased life span and environmental pollution caused by consumption of pesticides, insecticides, chemicals and heavy metals in the state (Singh et al. 2014 and Singh, 2015.

Much earlier, in June 2005, a survey with limited coverage conducted by the Punjab's Department of Health and Family Welfare identified that in the four districts of Punjab (Muktsar, Bathinda, Faridkot and Mansa), total number of cancer patients was 453, 711, 164 and 420 respectively with the incidence of cancer 54.7, 59.2, 28.0 and 57.4 per lakh population in that order. Another survey conducted by the same department in the whole Punjab identified 7738 cancer cases during 2009 (GOP, 2012). Most recently, a door-to-door survey in the whole of Punjab (covered 98 per cent of the state's population) highlighted enormity of cancer disease in the state by recording (i) 24,659 confirmed cancer cases by the end of 2012; and (ii) 87,402 persons were found to be suffering from anyone of 1-12 cancer symptoms. Further, the survey also recorded 34,430 cancer deaths caused by the cancers during the last five years in whole Punjab (GOP, 2013). The incidence of cancer worked to be equal to 90.1 per lakh population in the case confirmed cancer cases and 125.8 per lakh people in the case of suspected cancer cases (GOP, 2013).

Table 1.1: Number of Persons Suffering from Cancer, Diagnosed/Detected Cases and Cancer Deaths in Punjab, 2013

District	Population Covered	Total Number of Cancer Cases/Deaths			Cancer Incidence Per lakh Population		
		Persons Complaining of cancer Symptoms	Confirmed Cases	Cancer Deaths*	Confirmed Cases	Cancer Deaths	Suspected Cases
Malwa Region							
Barnala	595461	1091	588	780	98.7	131	183.2
Bathinda	1293628	3521	1627	2058	125.8	159.1	272.2
Fatehgarh Sahib	553290	1391	588	924	106.3	167.0	251.6
Ferozpur	1875020	7271	2136	2461	113.9	131.3	387.8
Faridkot	583105	2950	785	1112	134.6	190.7	505.9
Moga	949708	5367	840	1674	88.4	176.3	565.1
Mansa	781128	2646	1053	1212	134.8	155.2	338.7
Mukatsar	863611	4024	1177	1791	136.3	207.4	466.0
Patiala	1743623	6936	1513	1498	86.8	85.9	397.8
Sangrur	1587170	7744	1483	2284	93.4	143.9	487.9
Sub-Total	10825744	42941	11790	15794	93.4	143.9	487.9
Majha Region							
Amritsar	2303022	8483	1870	2755	81.2	119.6	368.3
Gurdaspur	2274676	6856	1363	2105	59.9	92.5	301.4
Tarn Taran	1141993	5309	467	930	40.9	81.4	464.9
Sub-Total	5719691	20648	3700	5790	64.7	101.2	361.0
Doaba Region							
Hoshiarpur	1554042	2481	1350	1937	86.9	124.6	159.6
Jalander	2034683	8179	1777	3249	87.3	159.7	402.0
Kapurthala	828641	2878	821	1156	99.1	139.5	347.3
Nawanshahr	633756	1232	503	548	79.4	86.5	194.4
Sub-Total	5051122	14770	4451	6890	88.1	136.4	292.4
Unclassified Region							
Ludhiana	3798424	5811	3169	3945	83.4	103.9	153.0
Mohali	985633	1541	931	964	94.5	97.8	156.3
Ropar	686925	1691	618	1047	90.0	152.4	246.2
Sub-Total	5470982	9043	4718	5956	86.2	108.9	165.3
Grand total	27067539	87402	24659	34430	90.1	125.8	318.9

*During the period of Cancer Survey, Fazilka was not a district headquarter. At that time, it was included in the Ferozepur district.

Source: GOP, 2013.

The data also revealed that incidence of cancer has been much higher in the state than that of the national and international average. When compared to WHO's point of reference 80 cancer affected persons among a population of one lakh - Punjab's survey discovered that 90 persons per lakh population were suffering from the cancer. While 215 people per lakh died of cancer, another 318 per lakh were suspected cases of suffering from the cancer disease. The Malwa region of Punjab has recorded a high of 93.4 cancer afflicted for every one lakh. Muktsar district in Malwa region has faced the worst with 136.3 patients for every lakh. Majha, comprising Amritsar, Gurdaspur and TaranTaran districts has clocked the lowest incidence of 64.7 cases of cancer per lakh population. The rich Doaba region, including Jalander, Hosiarpur, Phagwara and Kapurthala has confirmed 88.1 cancer patients per lakh of population. On the whole, cancer has acquired endemic proportions in the Punjab state's Malwa belt.

II. Demographic and Economic Features of Cancer Patients

2.1. Cancer Patient by Age

The date on the gender of cancer patients revealed that nearly three-fifth majority of cancer patients (60.39 per cent) were males and the rest were females (39.61 per cent). Across different categories of households, male-female division of cancer patients did not show much variations (Table 1.2).

Table 1.2: Distribution of Cancer Patients by Sex

Sex	Status of Household			Total
	High	Medium	Low	
Male	20	30	43	93
%	60.61	61.22	59.72	60.39
Female	13	19	29	61
%	39.39	38.78	40.28	39.61
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

2.2. Cancer Patient by Caste Status

Caste status of cancer patients (Table 1.3) showed that 40.91 per cent of patients belonged to the SCs followed by the Upper castes (37.01 per cent) and the OBC castes (22.08 per cent). Further, an overwhelming majority of the high status patients (84.85 per cent) belonged to the Upper castes. Similarly, a greater majority of the low status patents (65.28 per cent) belonged to the SC category. In the medium status households, 48.98 per cent patents belonged to the Upper castes, followed by the SC (30.61 per cent) and the OBC castes (20.41).

Table 1.3: Distribution of Cancer Patients by Caste Status

Caste Status*	Status of Household			Total
	High	Medium	Low	
Upper Castes	28	24	5	57
%	84.85	48.98	6.94	37.01
SCs	1	15	47	63
%	3.03	30.61	65.28	40.91
OBCs	4	10	20	34
%	12.12	20.41	27.78	22.08
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

*Upper Castes includeJatt, Pandit, Khatri, Jakhar, etc.;
SCs include Majhbi, Ramdasia, Gujjar, Sadh, Rai Sikh, etc; and
OBCs include Kamboj, Rajput, Lohar, Ghumar, Lakhara, etc.
Source: Primary Survey.

2.3. Cancer Patient by Age

The data revealed that of total cancer patients, 33.12 per cent patients belonged to the age group of 31-50 years, 33.12 per cent patients to the age group of 51-60 years, 22.73 per cent to the age group of 61-70 years, 6.49 per cent to the age group of 71-80 years and 1.95 per cent to the age group 81+ years. Just 2.60 per cent were in the age group of up to 30 years. Across the different categories of households, more cancer patients belonged to the age group of 31-70 years (93.88 per cent) in the case of medium status households, followed by the low status (90.27 per cent) and the high status (78.78 per cent) households. Above 71 years, the highest proportion of cancer patients (21.21 per cent) was found in the high status households and the lowest (4.08 per cent) was in the medium status households. It means that most of the cancer patients belonged to the age groups 31-70 years (Table 1.4).

Table 1.4: Distribution of Cancer Patients by Age

Age (in Completed Years)	Status of Household			Total
	High	Medium	Low	
Up to 30	0	1	3	4
%	0.00	2.04	4.17	2.60
31-50	9	16	26	51
%	27.27	32.65	36.11	33.12
51-60	8	19	24	51
%	24.24	38.78	33.33	33.12
61-70	9	11	15	35
%	27.27	22.45	20.83	22.73
71-80	4	2	4	10
%	12.12	4.08	5.56	6.49
81+	3	0	0	3
%	9.09	0.00	0.00	1.95
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

2.4. Cancer Patients by Educational Level

The data on educational level of cancer patients showed that 81.82 per cent of them had no education, 8.44 per cent studied up to primary level, 3.25 per cent had middle level education and 3.89 per cent studied till high school level education. Further, 1.95 per cent of patients studied up to senior secondary level of education, 0.65 per cent of patients passed graduation level examination and none of patient did post graduation pass. The proportion of illiterate patients was the highest (89.79 per cent) in the medium status households, followed by the low status (84.72 per cent) and the high status (63.64 per cent) households. The data also indicated that overall, those patients who had studied beyond the senior secondary level of education constituted a very small proportion. The proportion of cancer patients who educated up to graduation level was just 3.03 per cent in the high status category and no cancer patient in the medium status and the low status households had graduated or post graduated (Table 1.5).

Table 1.5: Distribution of Cancer Patients by Education Level

Education Level	Status of Household			Total
	High	Medium	Low	
Illiterate	21	44	61	126
%	63.64	89.79	84.72	81.82
Primary	5	3	5	13
%	15.15	6.12	6.94	8.44
Middle	2	0	3	5
%	6.06	0.00	4.17	3.25
Matriculation	2	1	3	6
%	6.06	2.04	4.17	3.89
Senior secondary	2	1	0	3
%	6.06	2.04	0.00	1.95
Graduation	1	0	0	1
%	3.03	0.00	0.00	0.65
Post graduation	0	0	0	0
%	0.00	0.00	0.00	0.00
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey

2.5. Working Status of Cancer Patients

The working status of patients determines the preferences for the quality and cost of seeking treatment. The data in Table 1.7 explained that 59.74 per cent cancer patients were working and 40.26 per cent were non-working at

the time of survey. The maximum proportion of working patients was in the medium status category (69.39 per cent), followed by the low status category (55.56 per cent) and the high status category (54.55 per cent).

Table 1.6: Distribution of Cancer Patients by Working Status

Working Status	Status of Households			Total
	High	Medium	Low	
Working	18	34	40	92
%	54.55	69.39	55.56	59.74
Non-working	15	15	32	62
%	45.45	30.61	44.44	40.26
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

Regarding the alive/dead status of cancer patients, the data showed that 58.44 per cent patients were alive and 41.56 per cent patients were dead at the time of survey. Further, across the different categories of households, 61.22 per cent of the cancer patients alive in the medium status, followed by the high status (57.58 per cent) and the low status (56.94 per cent) households.

Table 1.7: Distribution of Cancer Patients by Alive and Dead

Alive/Dead	status of households			total
	high	medium	Low	
Alive	19	30	41	90
%	57.58	61.22	56.94	58.44
Dead	14	19	31	64
%	42.42	38.78	43.06	41.56
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

The data also highlighted that 46.75 per cent of cancer patients were suffering for less than one year at the time of survey. 49.35 per cent of cancer patients were suffering from last 1-5 years and 3.89 per cent of cancer patients were suffering from last 6-15 years. Across the different categories of households, 66.67 per cent patients of the high status category suffered from 1-5 years compared to 48.98 per cent in the medium status category and 41.67 per cent in the low status category. 52.78 per cent patients of the low status category suffered from less than one year compared to 51.02 per cent in the medium status category and 27.27 per cent in the high status category (Table 1.9).

Table 1.8: Distribution of Cancer Patients by the Numbers of Years Suffered

Number of Years Suffered	Status of Households			Total
	High	Medium	Low	
Less than 1	9	25	38	72
%	27.27	51.02	52.78	46.75
1-5	22	24	30	76
%	66.67	48.98	41.67	49.35
6-15	2	0	4	6
%	6.06	0.00	5.56	3.89
Total	33	49	72	154
%	100	100	100	100

Source: Primary Survey.

On an average, estimated loss of income/wages of working patients worked out to be Rs. 26,617/-. There were wide variations of estimated loss of income/wages across the patients belonged to the different categories of households. For instance, estimated loss of income/wages for a cancer patient belonging to the high status households was Rs. 34,375/-, followed by the cancer patient of the medium status households (Rs. 25,227/-) and the low status households (Rs. 20,250/-). It means that higher status of households leads to a higher wage loss (Table 1.10).

Table 1.9: Estimated of Loss of Income Per Patient (Workers Only)

Status of Household	Average Loss of Income/Wages (Rs.)
High	34,375
Medium	25,227
Low	20,250
Average Loss (Rs.)	26,617

Source: Primary Survey

III. Types of Cancer

An analysis of data showed (Table 1.11) a wide variety of cancers. For instance, 20.77 per cent of patients were suffering from thyroid cancer, followed by stomach cancer (18.18 per cent), blood cancer (12.99 per cent), brain cancer (9.74 per cent), lung cancer (9.74 per cent), kidney cancer (9.09 per cent), breast cancer (8.44 per cent), mouth cancer (5.84 per cent), and ovary cancer (5.19 per cent). There were wide variations amongst the cancer patients by the type of cancer, gender and status of households. For instance, 23.08 per cent of the female patients in the high status households were suffered from breast cancer, whereas this proportion was 21.05 per cent in the medium status households and 20.69 per cent in the low status households. 27.91 per cent of the male patients in the low status households were suffered from thyroid cancer, whereas this proportion was 20.00 per cent in the medium status households and 20.00 per cent in the high status households. 20.00 per cent of the male patients in the medium status households were also suffered from blood cancer (Table 1.10).

Table 1.10: Distribution of Cancer Patients by Type of Cancer

Type of Cancer	Cancer Patients by Gender		
	M	F	T
Lung	13	2	15
%	13.98	3.28	9.74
Breast	0	13	13
%	0.00	21.31	8.44
Blood	14	6	20
%	15.05	9.84	12.99
Kidney	9	5	14
%	9.68	8.19	9.09
Brain	9	6	15
%	9.68	9.84	9.74
Mouth	8	1	9
%	8.60	1.64	5.84
Stomach	17	11	28
%	18.28	18.03	18.18
Ovary	0	8	8
%	0.00	13.11	5.19
Thyroid	23	9	32
%	24.73	14.75	20.77
Total	93	61	154
%	100.00	100.00	100.00

Source: Primary Survey

IV. Utilization Pattern of Health Services by Cancer Patients

Regarding the utilization pattern of health care services by the cancer patients, an analysis of data revealed that many factors like severity of illness, treatment costs, working status, income/education level of households/patients, etc played important role in seeking/taking treatment. First, the data indicated that an overwhelming majority of cancer patients (91.56 per cent) favored allopathic medicines for treatment, 8.44 per cent of patients were getting ayurvedic treatment and no patient was getting homeopathy treatment. In the case of high status patients, 100.00 per cent patients were getting allopathic treatment, followed by the low status patients (91.67 per cent) and the medium status patients (85.71 per cent). In the case of medium status and low status patients, 14.29 per cent and 8.33 per cent patients respectively were using ayurvedic treatment (Table 1.11).

Table 1.11: Distribution of Cancer Patients by Type of Treatment

Type of Treatment	Status of Households			Total
	High	Medium	Low	
Allopathic	33	42	66	141
%	100.00	85.71	91.67	91.56
Ayurvedic	0	7	6	13
%	0.00	14.29	8.33	8.44
Homeopathy	0	0	0	0
%	0.00	0.00	0.00	0.00
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

Further, 80.52 per cent of cancer patients used public health centers for treatment and 19.48 per cent preferred to get treatment from the private health centers. Across the different categories of households, a large proportion of the low status patients (90.28 per cent), followed by the medium status patients (77.55 per cent) and the high status patients (63.64 per cent) preferred public health centers for cancer treatment. On the other hand, a large proportion of the high status patients (36.36 per cent) and the lowest proportion of the low status patients (9.72 per cent) used the private health centre for cancer treatment (Table 1.12).

Table 1.12: Distribution of Cancer Patients by Type of Health Status

Type of Centers	Status of Household			Total
	High	Medium	Low	
Public	21	38	65	124
%	63.64	77.55	90.28	80.52
Private	12	11	7	30
%	36.36	22.45	9.72	19.48
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

Regarding the place of treatment, the data highlighted that the most of cancer patients visited faraway places to be cured from the diseases. Interestingly, 46.75 per cent of cancer patients were getting treatment from the hospital located at Bikaner (Rajasthan), 26.62 per cent were getting treatment from hospitals located at Ganganagar (Rajasthan), 16.88 per cent of cancer patient had treatment from hospitals located at Jaipur (Rajasthan), and 5.19 per cent of cancer patient getting treatment from PGI Chandigarh. Just 4.55 per cent cancer patients were getting treatment from health centres located at Abohar (Punjab). Across the different categories of households, 47.22 per cent of cancer patients in the low status household had treatment from Bikaner hospital, followed by the medium status households (46.94 per cent) and the high status households (45.45 per cent). Further, 30.61 per cent of cancer patients in the medium status household had treatment from Ganganagar (Rajasthan), followed by the low status household (26.39 per cent) and the high status household (21.21 per cent). It means that an overwhelming majority of cancer patients in this area were getting treatment from the hospitals/doctors located in the Rajasthan (Table 1.13)

Table 1.13: Distribution of Cancer Patients by Place of Treatment

Place of Treatment	Status of Household			Total
	High	Medium	Low	
Bikaner	15	23	34	72
%	45.45	46.94	47.22	46.75
Ganganagar	7	15	19	41
%	21.21	30.61	26.39	26.62
Jaipur	6	8	12	26
%	18.18	16.33	16.67	16.88
PGI Chandigarh	5	1	2	8
%	15.15	2.04	2.78	5.19
Abohar	0	2	5	7
%	0.00	4.08	6.94	4.55

Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey

Further, an assessment of data on doctor's qualification pointed out that 53.25 per cent cancer patients were treated by the MBBS doctors, 46.75 per cent by the MD/MS doctors, and no cancer patients was treated by the RMPs. It means that the cancer patients preferred to get treatment from the qualified doctors (MD/MS/MBBS). By comparing different categories, a higher proportion of high status patients preferred to get treatment from the MD/MS (60.61 per cent) and MBBS doctors (39.39 per cent), followed by the medium status patients (61.22 per cent from MD/MS and 38.78 per cent MBBS) and the low status patients ((30.56 per cent from MD/MS and 69.44 per cent MBBS). further, no patient in the high, the medium and the low status households preferred treatment from the RMPs (Table 1.14).

Table 1.14: Distribution of Cancer Patients by Doctors' Qualification

Doctors' qualification	Status of Households			Total
	High	Medium	Low	
MD/MS	20	30	22	72
%	60.61	61.22	30.56	46.75
MBBS	13	19	50	82
%	39.39	38.78	69.44	53.25
RMP	0	0	0	0
%	0.00	0.00	0.00	0.00
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

Regarding the reasons behind seeking treatment from a particular doctor/centre, an analysis of answers (reasons) presented an interesting picture. For instance, on the whole, 33.85 per cent responses of cancer patients stated that they preferred to get treatment from a particular centre/doctor on the recommendation of other patients, 32.07 per cent responses of cancer patients stated that they were attracted to a particular centre/doctor for treatment due to low fees and other charges. 22.72 per cent responses of cancer patients mentioned trust factor as the main reason, 5.35 per cent responses of cancer patients stated that the health centre/doctor was located nearest to their home and 6.01 per cent responses of cancer patients stated that they preferred it due to many other reasons. Further, there were no much variations across the different categories of patients so far as the reason behind their preferences were concerned (Table 1.15).

Table 1.15: Distribution of Reasons Behind Seeking Treatment from Particular Doctor/Health Centre by Cancer Patients

Reasons	Status of Households			Total
	High	Medium	Low	
Nearest to Residence	3	7	14	24
%	3.23	4.64	6.83	5.35
Low Fees and Charges	27	47	70	144
%	29.03	31.13	34.15	32.07
Trust Factor of Patients	21	37	44	102
%	22.58	24.5	21.46	22.72
Recommendation by other Patients	32	48	72	152
%	34.41	31.79	35.12	33.85
Others	10	12	5	27
%	10.75	7.95	2.44	6.01
All	93	151	205	449
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

V. Treatment Expenditure Incurred by Cancer Patients

On assessment of the data in Table 1.16 revealed that 61.69 per cent of cancer patients got treatment during the survey year as the outdoor patients and just 38.31 per cent of cancer patients also got treatment as indoor

patients. Further, across the different categories of households, indoor cancer patients constituted 48.98 per cent in the medium status households, followed by the low status households (36.11 per cent) and the high status households (27.27 per cent). On the other side, outdoor patients constituted 72.73 per cent in the high status households, followed by in the low status (63.89 per cent) and in the medium status (51.02 per cent) households.

Table 1.16: Distribution of Indoor and Outdoor Cancer Patients.

Types of Treatment	Status of Household			Total
	High	Medium	Low	
Indoor	9	24	26	59
%	27.27	48.98	36.11	38.31
Outdoor	24	25	46	95
%	72.73	51.02	63.89	61.69
Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

Per patient expenditure (indoor and outdoor together) worked to be Rs. 31,671 per month. There were considerable differences in per patient expenditure across the different categories of patients. For example, a cancer patient belonged to the high status category spent Rs. 54,071 per month, followed by the medium status category (Rs. 28,191) and the low status category (Rs. 26308). Across different types of expenditure items, one single item, namely, injection/medicines cornered nearly one-half of per patient per month expenditure (49.82 per cent), followed by diagnostic tests (18.69 per cent), transport cost (10.89 per cent) and hospital stay (6.20 per cent). The remaining expenditures were on special diet (3.91 per cent), doctor's fee (3.70 per cent), surgical (3.08 per cent) and any other (3.71 per cent). Further, per patient combined expenditure on treatment clarified that as one moved down the patient's status, per patient expenditure of indoor and outdoor treatment together also went down on all items of expenditure (Table 1.17).

Table 1.17: Per Patient Per Month Expenditure Indoor and Outdoor Treatment (Combined)

Items	Status of Households			Weighted Mean
	High	Medium	Low	
Consultation Fee	1910	1268	822	1173
%	3.53	4.49	3.12	3.70
Medicine/Injection	26904	13941	13306	15777
%	49.76	49.45	50.58	49.82
X-Ray/Tests etc.	9722	5198	4963	5918
%	17.98	18.44	18.64	18.69
Surgeries	1667	451	1218	975
%	3.08	1.6	4.6	3.08
Transportation Cost	5764	2977	2839	3448
%	10.66	10.56	10.79	10.89
Special Diet	2453	1141	884	1239
%	4.54	4.04	3.36	3.91
Hospital Stay	3507	2006	1420	1965
%	6.49	7.12	5.39	6.20
Any Other	2144	1209	856	1176
%	3.97	4.29	3.25	3.71
Total	54071	28191	26308	31671
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

Per patient expenditure of getting cancer treatment was found to be very high. The high cost of treatment expenditure raised an important question: how the high treatment cost has been financed by the households or cancer patients? An assessment of the data clarified (Table 1.18) that, on an average, 39.61 per cent cancer patients financed their indoor expenditure through the borrowed funds and the rest (60.39 per cent) used their past/current savings of through insurance claims or by selling assets. Further 66.67 per cent of cancer patients in the case of high status households financed treatment expenditure through own funds (54.55 per cent through current/past savings and 12.12 per cent through insurance) compared to 51.02 per cent in the case of medium

status households (32.65 per cent through current/past savings, 12.24 per cent through insurance and 6.12 per cent through sale of assets) and 63.89 per cent in the case of low status households (20.83 per cent through current/past savings, 27.78 per cent through insurance and 15.28 per cent through sale of assets).

Table 1.18: Distribution of Households by Source of Financing Indoor Expenditure

Sources	Status of Households			Total
	High	Medium	Low	
Own Funds				
Current Income/Past Saving	18	16	15	49
%	54.55	32.65	20.83	31.81
Insurance Claims	4	6	20	30
%	12.12	12.24	27.78	19.48
Selling Assets	0	3	11	14
%	0.00	6.12	15.28	9.09
Sub-Total	22	25	46	93
%	66.67	51.02	63.89	60.39
Borrowed Funds				
Commission Agents	3	4	5	12
%	9.09	8.16	6.94	7.79
Money Lenders	2	13	12	27
%	6.06	26.53	16.67	17.53
Friends/Relatives	6	7	9	22
%	18.18	14.29	12.50	14.29
Sub-Total	11	24	26	61
%	33.33	48.98	36.11	39.61
Grand Total	33	49	72	154
%	100.00	100.00	100.00	100.00

Source: Primary Survey.

The data also showed that 48.98 per cent of cancer households in the medium status category were dependent on borrowed funds as compared to 36.11 per cent households in the low status category and 33.33 per cent in the high status category. On an average, within the own sources of financing, current income and past savings together contributed 31.81 per cent of share, followed by insurance claims (19.48 per cent) and selling assets (9.09 per cent). Within the borrowings a major source of financing was the money lenders (17.53 per cent), friends/relatives (14.29 per cent), and commission agents (7.79 per cent). Further, there were wide variations about the relative importance of different sources of financing indoor expenditure across different categories of households.

VI. Main Conclusions and Public policy Issues

In brief, the analysis revealed that two-third majority of cancer patients were males (60.39 per cent) and the rest were females (39.61 per cent). Nearly two-third of cancer patients (66.24 per cent) belonged to the age group of 31-60 years, 22.73 per cent patients in the age group of 61-70 years, 6.49 per cent in the age group 71-80 years, and just 1.95 per cent in the age group 81+ years. Further, an overwhelming majority of them (81.82 per cent) were illiterate, 8.44 per cent studied up to primary level and 3.25 per cent had middle level education. Caste-wise, 40.91 per cent cancer patients belonged to the SC category, followed by the General category (37.01 per cent) and the OBC category (22.08 per cent). Further, 59.74 per cent of cancer patients were working and 40.26 per cent were non-working; 58.44 per cent of them were alive and 41.56 per cent were dead at the time of survey.

Regarding the type of cancer, the data showed that 20.77 per cent of cancer patients were suffered from the thyroid cancer, followed by the stomach (18.18 per cent), blood cancer (12.99 per cent), and lung/brain cancer (9.74 per cent). On the question of treatment, 80.52 per cent of them preferred government health facility and 19.48 per cent cancer patients preferred private facility. Surprisingly, most of cancer patient were getting treatment from the hospitals/doctors located outside the state (Bikaner, 46.75 per cent; Ganganagar, 16.88 per cent and PGI Chandigarh, 8.19 per cent). Just 4.55 per cent of patient got treatment from Abohar based hospitals/doctors. Further, the data indicated that a great majority of cancer patients (91.67 per cent) favored allopathic treatment, 8.33 per cent used ayurvedic treatment and nopatient was using homeopathic treatment.

Per patient monthly expenditure for getting cancer treatment was very high; Rs. 31671(weighted mean). Further, 50.45 per cent cost of treatment was incurred on medicines and injections, followed by the diagnostic tests (18.59 per cent), transport cost (10.08 per cent), hospital stay (6.54 per cent) consultation fees (3.92 per cent), and other items (2.49 per cent). On the financing front, the data clarified that 39.61 per cent cancer patients financed their cancer expenditure through the borrowed funds and 60.39 per centused their past/current savings/insurance claims, if any. A good proportion of cancer suffering households was found to be selling their permanent income generating assets land, house/plot, animals, etc.

In nutshell, the study indicates that financial burden of cancer treatment cost is substantially very high and mostly borne by the patient or the family. In the most cases, monthly/yearly average cost of cancer treatment far exceeded monthly/yearly household income of cancer afflicted households.The study clearly established that financial burden faced by the cancer patients, especially the poor, often led to a catastrophic situation or many a times devastated their financial position far ever. It is, therefor, inevitable to set up a good referral system and a mechanism to provide free diagnosis, treatment and travel expenses of cancer patients. Most importantly, there is need to strengthen the cancer control activities at the community level as most of the common cancers are preventable. It is a high time to develop a system that combines public and private efforts, not only to finance cancer treatment but also to bring the families out of perpetual distress in the long run.

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